APPENDIX

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RC MASTER DISPOSAL SYSTEM TROUBLESHOOTING

Although the RC Disposal Modification has proven effective, we have developed this Master Disposal Handbook to assist you in troubleshooting unusual problems and critical adjustments.

The first step in resolving any problem with the RC Master Disposal System is to correctly identify the problem and not just how the symptom presents itself. Question the end user to pin point the symptoms or location of the failure. Next try to simulate the problem. This may be accomplished by cheating the original feed table interlocks and visually inspecting the master disposal process.

The following is a step by step explanation of the internal component functions, specifications and what to look for in a visual inspection:

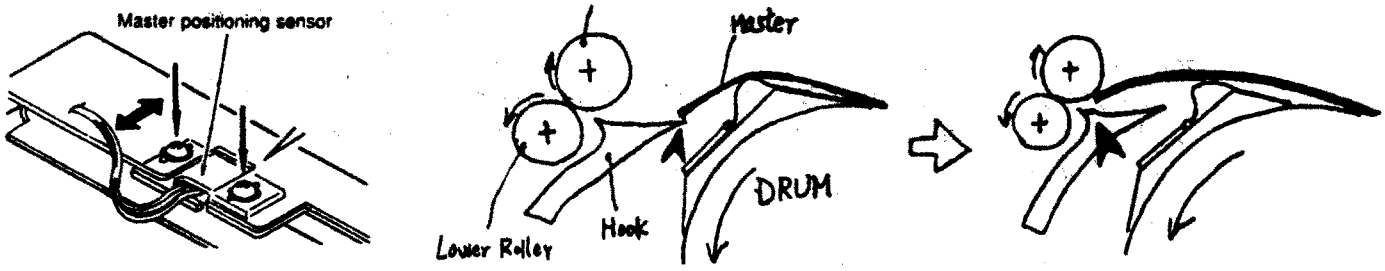
Disposal Overview

1. The master guide must be properly formed to the following configuration;
   The master guide directs the master material into the clamp, as well as the upper and lower vertical discharge rollers. If improperly formed, jamming will occur.
   Note: If the master guide is properly positioned, the print cylinder should not hit the master guide as the drum is removed or installed. The master guide should be removed from the machine to insure the proper angles. Always check the master guide for burrs. Burrs will inhibit the master travel or bind the clamp plate from opening or closing smoothly.

Disposal Overview

2. The master positioning sensor must be adjusted to specification. The master material should extend 1mm to 2mm beyond the clamp plate in its clamped position. This specification allows the disposal hooks to handle the master material more easily.

   Note: When adjusting the master positioning sensor to the right, the master material hits the end of the disposal hooks. Adjusting the master positioning sensor to the left makes the master material feed too far into the hooks.
   The ideal position is when the master material lead edge hits dead center on the disposal hook.



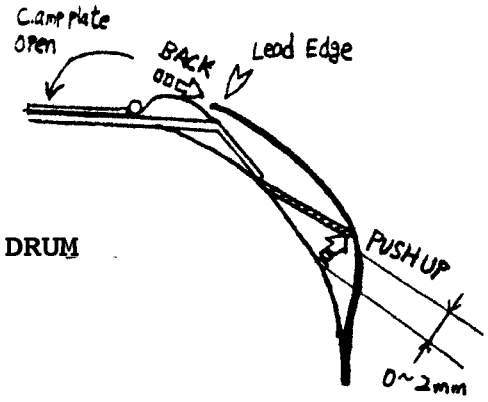
Disposal Overview

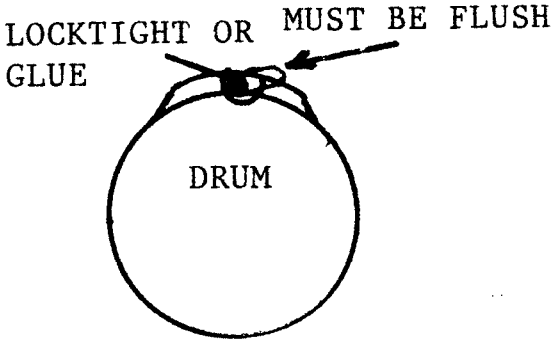
3. Drum Specifications
(Sticker Sheet / Separator Plate / Angular Magnet Plate / Clamp Plate Sheet)
The sticker sheet holds the master material forward into the master disposal hooks, directing the material toward the upper and lower vertical discharge rollers.
A defective sticker sheet will result in double wraps of masters on the drum.
Clean the sticker sheet with water only, not alcohol. Alcohol removes the adhesive qualities.

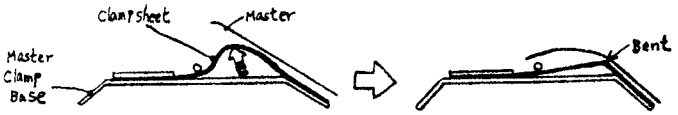
Ensure the Separator Guide does not extend more than 2mm out from the drum. This will push the master material away from the drum as soon as the clamp plate is opened, misdirecting the master material toward the vertical transport rollers.

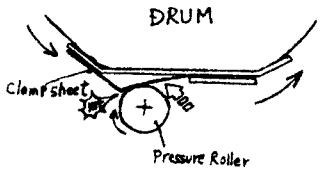
Check the Angular Magnet Plate. With the clamp open or closed the angular magnet plate should be flush with the top of the drum. If not, reform the clamp plate. (Ref. TIB #68)
Note: If the Angular Magnet Plate is out of specification, the drum will rotate too soon and the clamp plate will be drawn into the disposal hooks.

Check the Clamp Plate Sheet. The ribs should be dome shaped, not folded.
If the Clamp Plate Sheet is folded, the resting position of the Pressure Roller is out of specification. A folded clamp plate sheet will not lift the master material high enough off the drum, impeding the operation of the master disposal hooks in relation to the master material.







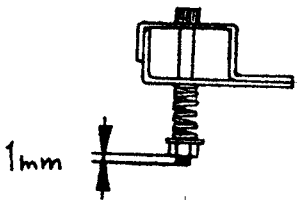


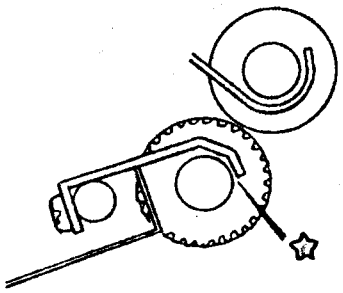
Disposal Overview

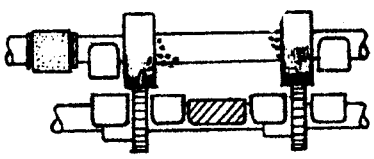
4. Upper Vertical Discharge Rollers must be in specification.
All 3 tension spring nuts should be adjusted so 1mm of thread is beyond the face of the adjusting nut. Check the springs to see if they are stretched or cut. Improper tension will cause the master material to skew as it is driven through the disposal rollers. Master skew is visible by the roller tracks on the used master material.

Ref. (Test code 51) Vertical Transport Roller rotation.
Remove the disposal unit, place it on the feed table and reconnect the connector.
Enter Test Code 51.
During vertical transport roller rotation, check for broken or improperly aligned rollers between the upper and lower rollers. They should be in direct contact. The upper rubber rollers were noted to break loose from the shaft or wobble during rotation.
Check the metal master guides between the upper and lower vertical transport rollers. They should not be bent or obstruct the master path leading to the master disposal box. A visual check should view them in perfect alignment as you look down on the guides.
Insure the mylar washers are installed on the upper roller. The washers prevent master material from sticking to the upper rollers, that would otherwise result in jams.
If a skew in the master material is still evident, the disposal unit is not square with the print cylinder. Adjust the unit right, left, forward or back.

Note: It has been reported that covering the pins on the white drive rollers (of the lower vertical discharge roller) with heat shrink material prevents master wraps on the vertical discharge rollers. An alternative, is to file the pin slightly and cover them with silicon rubber.



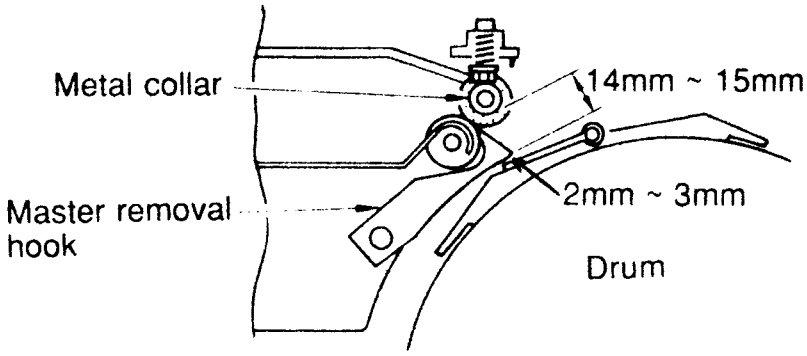




Disposal Overview

5. Master Disposal Hook specification.
With the clamp in the open position, (toward the disposal unit) a 2mm to 3mm gap between the master disposal hook and the clamp plate is necessary. If improperly adjusted, the master will double wrap around the drum or the disposal hooks will hit the clamp plate, damaging the hooks. This can be measured by rotating the print cylinder to the left, (insuring the clamp plate is under the disposal hooks) entering Test mode 51, (energizing the disposal solenoid) and measuring the gap.

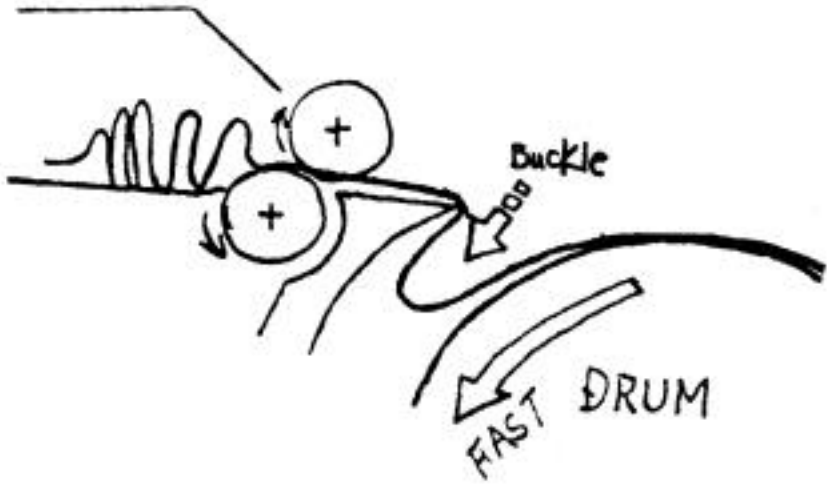
Note: Whenever the Disposal Unit is removed from the machine, the disposal hook specification should be rechecked because the Disposal Unit has lateral play front, rear, right and left.
It is also recommended that the disposal hook solenoid and linkage be checked for mechanical binds. Improper actuation of the disposal hooks will interfer with the master path and handling of master material. Check the disposal hooks for burrs.



Disposal Overview

6. Drum speed 15 rpm calibration.
   The objective is to have the master material pulled off the drum by the disposal unit. If the drum speed is set too fast, the master material will buckle below the disposal hooks and result in a jam condition.

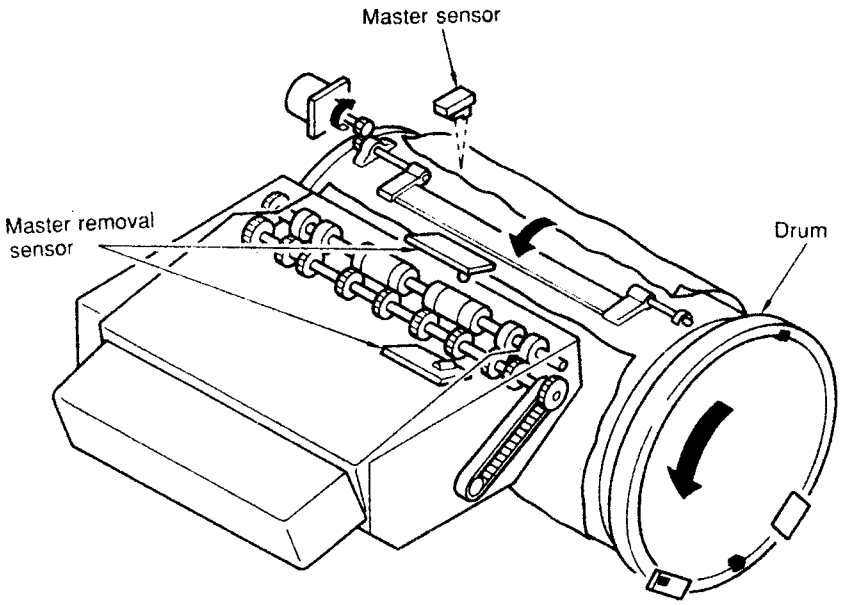
   Note: This is a visual adjustment process. When the table interlocks are defeated. you can watch the disposal unit pull the master off the drum. It has also been reported that slowing down the 30RPM to 27RPM has improved master handling.
   30RPM – Test code #41 Adj.GA-VR-5 NON GA-VR-6
   15RPM – Test code #40 Adj.GA-VR-6 NON GA-VR-7



Disposal Overview

7. Check the Master Removal Sensor. Test mode #31 allows checking the function of this sensor by breaking the light path between the emitter and receiver. A change in tone from a slow to a fast beep insures it is working properly. Any obstruction in the light path will cause the machine to lock into a "Master Disposal Jam" condition. A defective emitter can be isolated from the receiver by pointing a flashlight at the receiver. Again, a change in tone indicates a defective emitter. The master removal sensor also sends the signal to count the number of masters in the disposal box. It has been reported from the field that the disposal sensor responds to jam conditions, but does not trip the internal count of masters. This may be checked by running 30 consecutive masters and observing the "Empty Disposal Box" message on the operation panel. If this is a problem, replace the System Main ROM with the same version ROM.

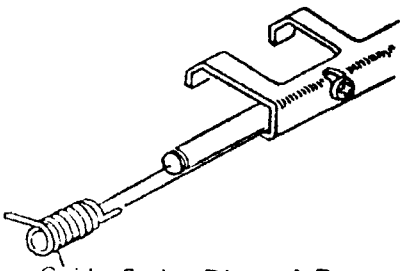
   Note: Test code 90 resets all internal counters.



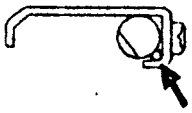
Disposal Overview

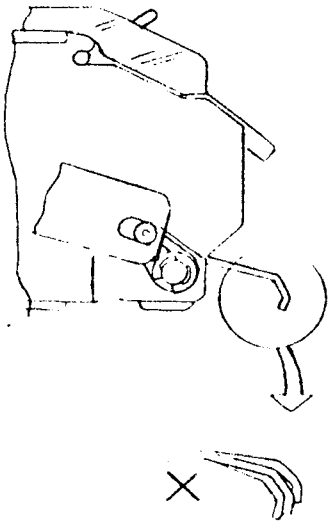
8. Check the Master Disposal Box.
   Improper positioning of the new release spring on installation created a problem for the customer when installing the box. This spring returns the box guides to their fully opened position after the handles are released. If not fully opened, the guides will obstruct the master path.

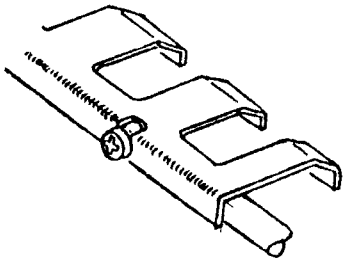
   Note: The disposal box handles should be fully closed when installing the box and fully open when released. Forcing the box into position will only bend the master guides or break the disposal box handles.



Guide Spring;Disposal Box

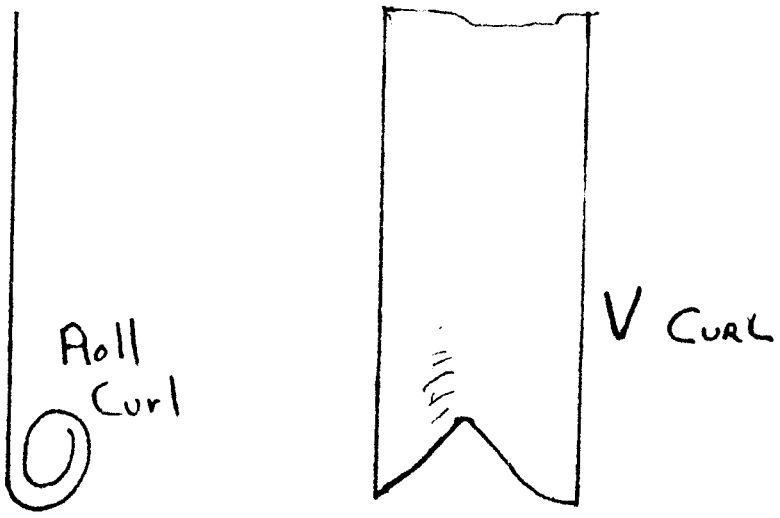
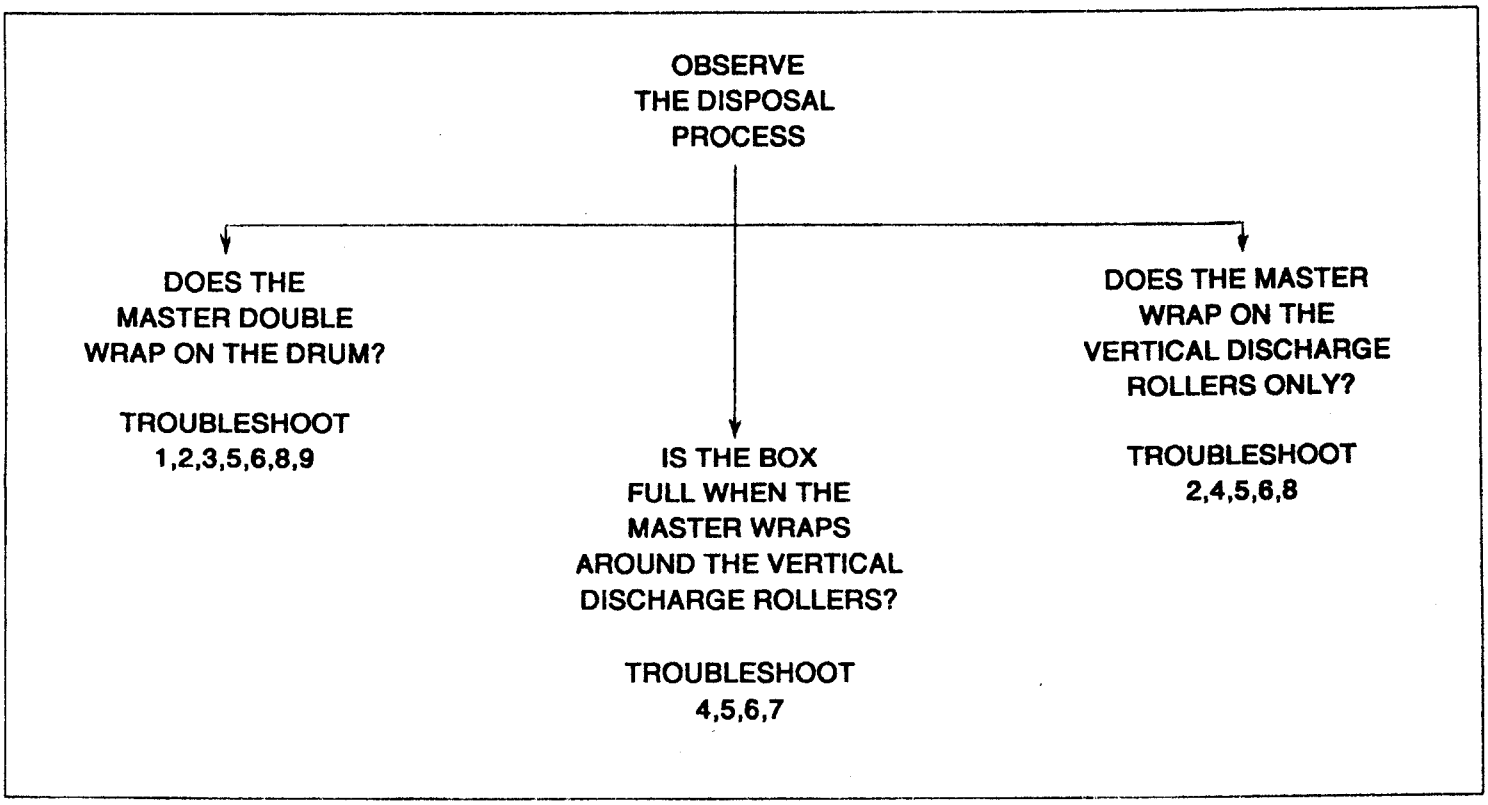






Disposal Overview

9. Check the master curl.
   Master curl may be checked by removing the roll from the machine, unrolling the master material to the floor from arms length and observing the curl. There are two types of curl. The V curl and a roll curl. A roll curl in excess of two revolutions is considered excessive and out of specification for the machine.



TROUBLESHOOTING FLOWCHART